

# **Part Three**

## **Alternatives and CEQA-Required Conclusions**



## 3.1 Alternatives to the Project

The CEQA Guidelines require EIRs to consider a reasonable range of alternatives to a proposed project or program. These alternatives must “feasibly attain the basic objectives of the project.” (CEQA Guidelines, Section 15126(a).) “Feasible” means that the alternatives “are capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social and technological factors. (CEQA Guidelines, Section 15364.) The EIR need not analyze these alternatives at the same level of detail that it analyzes the project itself. The Guidelines require only that the EIR analyze the comparative merits of the alternatives.

Section 15126 of the CEQA Guidelines outlines the range of alternatives that the EIR should analyze. All EIRs must assess the “No Project” alternative. This alternative analyzes the environmental implications of not adopting the 2001 RTP. The other alternatives depend on the type and setting of the project. The range of alternatives is determined by the “rule of reason”. That is, the EIR needs to analyze only those alternatives that will help decision-makers make reasoned choices. The EIR should also focus on alternatives that reduce or eliminate the identified impacts of the proposed project, even if those alternatives would impede to some degree the attainment of the project objectives or would be more costly. If the alternatives themselves would have significant environmental impacts the EIR must identify them.

Finally, the CEQA Guidelines require each EIR to identify the environmentally superior alternative among the alternatives analyzed. If the No Project alternative is the environmentally superior alternative, the EIR must select another from among the alternatives analyzed.

### **ALTERNATIVES ANALYZED IN THIS EIR**

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This EIR considers four alternatives to the proposed 2001 RTP, including the No Project Alternative, a System Management Alternative, the Blueprint 1 Alternative, and the Blueprint 2 Alternative. The No Project Alternative is required by CEQA. The other three alternatives embody different means of achieving the goals and objectives of the 2001 RTP, which are to:

- Improve mobility for persons and freight;
- Promote safety for system users.
- Promote equity for system users;
- Enhance sensitivity to the environment;
- Support the region's economic vitality; and
- Support community vitality in the region.

These alternatives were selected to provide MTC decision makers with a reasonable range of choices and guidance about the future transportation system of the Bay Area. These alternatives are also intended to reflect distinct differences with respect to investment, mobility, and

environmental effects. The respective alternatives are described below. Table 3.1-1 shows the differences in the supply of transportation system capacity between alternatives.

**Table 3.1-1: Roadway Lane Miles and Transit Supply (1998 to 2025)**

	1998	2025 No Project	2025 Project	System Management	Blueprint 1	Blueprint 2
<b>Roadway Lane Miles</b>						
Freeways	4,427	5,380	5,621	5,678	5,788	5,836
Mixed	4,173	5,012	5,109	5,087	5,214	5,218
HOV	254	368	512	591	574	618
<b>Expressways</b>	923	1,043	1,089	1,088	1,142	1,223
Mixed	873	977	1,023	1,022	1,076	1,138
HOV	50	66	66	66	66	85
<b>Arterial/Other</b>	14,023	13,588	13,640	13,640	13,644	13,617
<b>Total</b>	<b>19,375</b>	<b>20,011</b>	<b>20,350</b>	<b>20,406</b>	<b>20,574</b>	<b>20,676</b>
<b>Transit Supply<sup>1</sup></b>						
Transit Mode						
Bus Transit	1,365,270	1,410,330	1,470,102 <sup>2</sup>	1,486,202	1,573,690	1,680,512
Light Rail Transit	143,011	249,856	268,134 <sup>3</sup>	268,925	275,102	328,456
Rapid Rail Transit(BART)	1,058,138	1,279,215	1,452,045 <sup>4</sup>	1,281,315	1,629,390	2,946,773
Commuter Rail Transit	473,046	645,204	672,602	822,668	1,415,960	2,149,252
Ferry Transit	96,720	115,860	115,860	115,860	238,640	597,340
<b>Total</b>	<b>3,136,185</b>	<b>3,700,465</b>	<b>3,978,743</b>	<b>3,974,970</b>	<b>5,132,782</b>	<b>7,702,333</b>

<sup>1</sup>AM peak period passenger seat miles per hour.

<sup>2</sup>1,478,200 in Project B.

<sup>3</sup>250,200 in Project B.

<sup>4</sup>1,307,400 in Project B.

Source: Metropolitan Transportation Commission, 2001.

## NO PROJECT ALTERNATIVE (ALTERNATIVE 1)

The No Project Alternative, required by CEQA, addresses the effects of not implementing the 2001 RTP. This alternative includes highway, transit, local roadway, bicycle, and pedestrian projects that are in advanced planning stages and slated to go forward since they have full funding commitments. These projects are identified in the federally required Fiscal Year 2001 Transportation Improvement Program (TIP) and include fully funded sales tax projects authorized by voters in five Bay Areas counties, including sales tax reauthorizations in Alameda and Santa Clara Counties from the November 2000 election. The transportation improvements included in this alternative are listed in Appendix C.

## SYSTEM MANAGEMENT ALTERNATIVE (ALTERNATIVE 2)

This alternative includes a set of projects intended to address existing corridor mobility issues. It emphasizes the application of available funds in ways that would improve the operational

efficiency of the existing transportation system, such as more express bus service, reversible carpool lanes, and a better connected HOV and transit system. This alternative provides more funding for street and road pavement maintenance shortfalls. Freeway ramp metering is assumed for the most congested corridors. Congestion pricing is assumed on the Bay bridges to generate additional revenues, including transit operating revenues, and some highway projects are deferred to provide additional capital funding. The transportation improvements included in this alternative are listed in Appendix C.

### **BLUEPRINT 1 ALTERNATIVE (ALTERNATIVE 3)**

In addition to the projects that comprise the 2001 RTP, this alternative includes projects considered in MTC's 2000 *Bay Area Transportation Blueprint for the 21<sup>st</sup> Century* that could be funded if certain new revenue sources are developed. These revenue sources are considered reasonable in that they represent extensions of or increases to existing funding sources, or have legislative authorization to be developed or implemented. Potential sources of new revenue include a regional gas tax of up to 10-cents, higher bridge tolls, new and extended sales taxes in various counties, BART bonds, and continuation of higher state transportation funding levels as recently provided in the Governor's 2000 *Transportation Congestion Relief Program (TCRP)* and passed by the State Legislature as a proposed constitutional amendment on the March 2002 ballot. The transportation improvements included in this alternative are listed in Appendix C.

### **BLUEPRINT 2 ALTERNATIVE (ALTERNATIVE 4)**

In addition to the projects that comprise the 2001 RTP, this alternative includes a number of additional projects considered in MTC's 2000 *Transportation Blueprint for the 21<sup>st</sup> Century*. Many of these projects are being considered in other ongoing planning studies, including expanded ferry service, a California High Speed Rail system, and other long-term highway and transit improvements. This alternative includes all of the Blueprint 1 projects and therefore provides the most extensive set of transportation projects that could be funded under the most optimistic assumptions about future revenues. The transportation improvements included in this alternative are listed in Appendix C.

## **COMPARATIVE IMPACT ANALYSIS**

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MTC may adopt any of the alternatives included in this EIR. Although federal planning regulations require that MTC identify a set of projects that can be delivered based on reasonably available funding, these requirements do not preclude MTC from adopting a plan that includes additional projects that are not financially constrained. The No Project alternative would not use the \$7.7 billion in new revenues projected to be available. The Project and System Management alternatives would be financially constrained, although the System Management alternative would require MTC to pursue congestion pricing on the Bay Bridges. The Blueprint 1 and Blueprint 2 alternatives both include new revenue sources that have the ability to be implemented through future voter or legislative action: new local sales taxes, use of the state sales tax on gasoline for transportation, a regional gas tax (for which MTC has current authority), or continuation of the current \$2 bridge toll to fund seismic retrofit work on the Bay bridges.

Tables 3.1-2 through 3.1-5 illustrate the transportation impacts amongst the alternatives, and Table 3.1-6 shows the air quality impacts. Both impacts are discussed in Table 3.1-7.

Table 3.1-7 compares the impacts of each alternative, relative to one another, for the purposes of identifying an environmentally superior alternative, as required by the CEQA Guidelines. And, Table 3.1-8 illustrates the comparative impacts of each alternative in an easy-to-use format.

**Table 3.1-2: Average Travel Time Per Trip in Minutes<sup>1</sup> (1998 to 2025)**

	1998	2025 No Project	2025 Project	System Management	Blueprint 1	Blueprint 2
Work Trips Total	27.2	35.5	33.9	33.7	33.6	32.9
Non-Work Trips Total	15.3	16.8	16.5	16.5	16.5	16.4
Total Personal Trips	18.2	21.8	21.2	21.1	21.1	20.8
Total Trucks	25.7	30.3	29.4	29.3	29.2	28.9

<sup>1</sup>No difference between Project alternative and Project B.

Source: Metropolitan Transportation Commission, 2001.

**Table 3.1-3: Accessibility to Jobs (1998 to 2025)**

	1998	2025 No Project	2025 Project	System Management	Blueprint 1	Blueprint 2
<b>Number of Total Jobs Accessible by Auto</b>						
Within 15 minutes	126,911	122,427	128,403	127,984	128,734	129,311
Within 30 minutes	513,357	452,391	489,797	480,791	490,577	495,587
Within 45 minutes	1,016,056	876,457	957,397	933,068	961,133	980,833
<b>Number of Total Jobs Accessible by Transit</b>						
Within 15 minutes	3,715	4,642	4,717	4,792	4,913	5,640
Within 30 minutes	55,486	70,258	74,299	74,498	81,371	93,313
Within 45 minutes	209,497	269,364	290,697	290,745	321,931	362,345
<b>Regional Total Jobs</b>	<b>3,504,118</b>	<b>4,906,829</b>	<b>4,906,829</b>	<b>4,906,829</b>	<b>4,906,829</b>	<b>4,906,829</b>

Source: Metropolitan Transportation Commission, 2001.

**Table 3.1-4: Daily Vehicle Trips by Corridor (1998 to 2025)**

<i>Corridor Description</i>	<i>1998</i>	<i>2025 No Project</i>	<i>2025 Project</i>	<i>System Management</i>	<i>Blueprint 1</i>	<i>Blueprint 2</i>
Golden Gate	1,389,567	1,816,125	1,806,935	1,806,513	1,805,980	1,803,578
North Bay East-West	50,708	89,322	89,172	89,133	89,173	89,224
Transbay-Richmond/San Rafael	41,625	74,397	73,682	73,478	73,672	73,458
San Francisco	1,554,966	1,778,106	1,770,038 <sup>1</sup>	1,761,520	1,761,554	1,747,643
Transbay-San Francisco/Oakland	307,250	406,007	405,029	399,499	406,186	399,976
Peninsula	2,090,238	2,559,217	2,553,559 <sup>2</sup>	2,548,280	2,538,679	2,532,534
Transbay-Dumbarton, San Mateo-Hayward	147,948	217,071	216,663	213,367	214,636	210,886
Silicon Valley	4,276,894	5,468,290	5,456,875 <sup>3</sup>	5,455,975	5,442,815	5,440,923
Fremont/South Bay	178,261	245,572	241,227 <sup>4</sup>	243,316	241,044	240,536
Eastshore-South	1,574,541	1,852,892	1,848,653	1,848,997	1,849,173	1,846,064
Sunol Gateway	111,588	203,552	202,363	201,135	200,925	200,285
Tri-Valley	336,693	579,155	577,635	577,182	577,611	575,622
Diablo	1,018,948	1,364,154	1,362,779	1,360,839	1,362,361	1,360,794
Delta	337,430	597,589	597,725	597,712	597,380	596,149
Eastshore-North	928,429	1,291,659	1,290,857	1,290,627	1,290,131	1,288,496
Napa Valley	242,507	359,129	359,842	359,735	359,722	359,667
<b>Regional Total</b>	<b>14,587,591</b>	<b>18,902,236</b>	<b>18,853,034</b>	<b>18,827,307</b>	<b>18,811,043</b>	<b>18,765,833</b>

<sup>1</sup>San Francisco corridor is 1,771,600 vehicle trips in Project B.

<sup>2</sup>Peninsula corridor is 2,555,500 vehicle trips in Project B.

<sup>3</sup>Silicon Valley corridor is 5,462,300 vehicle trips in Project B.

<sup>4</sup>Fremont/South Bay is 243,215 vehicle trips in Project B.

Note: All differences in vehicle trips at the corridor level comparing Project B to Project alternative are negligible (<0.3% in all corridors).

Source: Metropolitan Transportation Commission, 2001

**Table 3.1-5: AM Peak Period Regional VMT by Facility Type and Volume to Capacity (V/C) Ratio (1998 to 2025)**

V/C Ratio	LOS	1998		2025 No Project		2025 Project		System Management		Blueprint 1		Blueprint 2	
Freeways													
<0.75	A-C	5,626,945	53%	3,934,834	28%	4,521,349	32%	4,417,510	31%	4,896,555	34%	5,058,618	35%
0.75-1.00	D-E	4,639,556	44%	7,774,601	56%	7,805,956	55%	7,862,963	56%	7,894,203	55%	7,765,930	54%
>1.00	F	382,698	4%	2,201,030	16%	1,863,037	13%	1,852,740	13%	1,670,003	12%	1,684,575	12%
Total		10,649,199	100%	13,910,465	100%	14,190,342	100%	14,133,213	100%	14,460,761	100%	14,509,124	100%
Expressways and Arterials													
<0.75	A-C	5,530,645	71%	6,145,676	55%	6,137,288	57%	6,130,100	56%	6,157,197	56%	6,206,407	56%
0.75-1.00	D-E	1,605,975	21%	3,104,661	28%	3,065,422	28%	3,153,824	29%	3,188,247	29%	3,134,524	28%
>1.00	F	624,117	8%	1,871,792	17%	1,615,460	15%	1,632,609	15%	1,662,180	15%	1,696,571	15%
Total		7,760,737	100%	11,122,129	100%	10,818,169	100%	10,916,534	100%	11,007,625	100%	11,037,502	100%
All Facilities													
<0.75	A-C	11,157,590	61%	10,080,510	40%	10,658,637	43%	10,547,611	42%	11,053,753	43%	11,265,025	44%
0.75-1.00	D-E	6,245,531	34%	10,879,262	43%	10,871,377	43%	11,016,787	44%	11,082,450	44%	10,900,454	43%
>1.00	F	1,006,815	5%	4,072,822	16%	3,478,497	14%	3,485,349	14%	3,332,183	13%	3,381,147	13%
Total		18,409,936	100%	25,032,594	100%	25,008,511	100%	25,049,747	100%	25,468,386	100%	25,546,626	100%

<sup>1</sup> AM Peak Period is two hours.<sup>2</sup> Freeways include Freeways and Freeway-to-Freeway connectors. Expressways and Arterials include all other facilities.<sup>3</sup> LOS - Level of Service measures traffic density in a range of A to F.<sup>4</sup> LOS A are free-flow conditions with no delay; LOS D-E are more congested conditions with some delay possible; LOS F represents conditions of over-capacity and significant delay.<sup>5</sup> Project B AM Peak Period Total VMT is 24,972,000. Project B Freeway VMT is slightly higher at 14,210,700. Project B expressway and arterial VMT is slightly lower at 10,761,200. Distribution of VMT by V/C ratio is same in Project B as Project alternative.

Source: Metropolitan Transportation Commission, 2001



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*Chapter 3.1 – Alternatives to the Project*

**Table 3.1-6: Average Daily Vehicle Miles Traveled (VMT), Energy (billions of BTUs), and Emission Estimates using EMFAC 7G Factors (tons/day) (1998 to 2025)**

	1998	2025 No Project	2025 Project A	2025 Project B	System Management	Blueprint 1	Blueprint 2
Average Daily VMT (000s)	128,369	191,768	190,587	190,450	189,976	190,163	189,391
ROG	178.40	49.3	46.8	46.52	46.40	46.5	46.3
PM <sub>10</sub>	64.0	91.9	91.4	91.3	91.1	91.1	90.7
CO	2,044.36	795.3	779.3	777.4	774.2	776.3	773.72
NO <sub>x</sub>	251.37	146.5	146.3	147.4	145.9	147.2	146.70
CO <sub>2</sub>	473.1	687.5	671.9	667.6	666.4	669.2	666.5
Energy	1,324	1,693	1,702	1,691	1,687	1,701	1,722

*Source: Metropolitan Transportation Commission, 2001.*

**Table 3.1-7: Transportation and Circulation Impacts - Alternative Comparison**

No Project (Alternative 1)	System Management (Alternative 2)	Blueprint 1 Alternative (Alternative 3)	Blueprint 2 Alternative (Alternative 4)
<b>Transportation</b>			
<b>Average Travel Time Per Trip</b> (see Table 3.1-2)			
The No Project alternative would result in the least improvement in average travel time compared to the Project and Alternatives 2, 3, and 4.	Alternative 2 is minimally better than the Project alternative for work trips and performs the same for non-work trips.	Alternative 3 results in a further minor improvement in work trip average travel time compared to the Project and Alternatives 1 and 2, but non-work trips times are the same.	Alternative 4, with the most significant investment facilities, has the greatest improvement in average work trip travel time and exhibits a minor improvement in non-work travel time compared to Alternatives 2, 3, and 4.
<b>Accessibility to Jobs</b> (see Table 3.1-3)			
The No Project alternative provides the lowest accessibility of all the alternatives to total jobs.	Alternative 2 provides slightly poorer access to jobs by auto than the Project alternative and Alternatives 3 and 4. It provides equivalent access to jobs by transit compared to the Project alternative, but significantly lower access by transit compared to Alternatives 3 and 4.	Alternative 3 performs about the same as the Project Alternative for auto access to jobs but considerably better than the Project and Alternative 2 for transit.	Alternative 4 results in the greatest improvement in access compared to all the other alternatives.
<b>Daily Vehicle Trips</b> (see Table 3.1-4)			
The No Project alternative reduces daily vehicle trips the least of any of the alternatives.	Because of the assumed increase in bridge tolls, Alternative 2 reduces more daily vehicle trips than the other alternatives in the Bridge corridors. It also performs better than the Project alternative in the Peninsula and in San Francisco travel corridors.	Alternative 3 performs better than the Project alternative in several corridors (San Francisco, Peninsula, and Santa Clara), but not as well as Alternative 4 in most corridors.	Alternative 4 provides the same or greater reductions in vehicle trips in all corridors compared to other alternatives.
<b>Vehicle Miles Traveled by Facility Type and Volume to Capacity Ratio (V/C)</b> (see Table 3.1-5)			
The No Project alternative has the highest amount of VMT at LOS F for freeways and arterials of all the alternatives.	Compared to other alternatives, Alternative 2 has lower freeway VMT at LOS F than the Project Alternative, but higher arterial VMT at LOS F. It does poorer for freeways than Alternatives 3 and 4, but better for arterials and expressways.	Alternative 3 has the lowest freeway VMT at LOS F of all the alternatives, but higher arterial VMT than the Project and Alternative 2.	Alternative 4 has about the same amount of freeway VMT at LOS F as the Project alternative but higher arterial VMT at LOS F than the Project alternative and Alternatives 2 and 3.

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*Chapter 3.1 – Alternatives to the Project*

**Table 3.1-7: Transportation and Circulation Impacts - Alternative Comparison**

<i>No Project (Alternative 1)</i>	<i>System Management (Alternative 2)</i>	<i>Blueprint 1 Alternative (Alternative 3)</i>	<i>Blueprint 2 Alternative (Alternative 4)</i>
<b>Air Quality</b> (see Table 3.1-6)			
Air quality emissions for pollutants that form smog (ROG and NO <sub>x</sub> ) will be considerably lower than today's emissions for all alternatives. The differences between alternatives are not significant for any of the major pollutants, including PM <sub>10</sub> . With this caveat, the No Project alternative reduces the emissions the least of all the alternatives.	This alternative has lower emissions than the Project alternative and the lowest amount of NO <sub>x</sub> emissions of all the alternatives.	Alternative 3 has higher NO <sub>x</sub> emissions than the Project alternative and lower ROG.	Alternative 4 has the lowest PM <sub>10</sub> and ROG emissions of all the alternatives, but NO <sub>x</sub> emissions are not as low as Alternative 2.
<b>Energy</b> (see Table 3.1-6)			
The No Project alternative uses less energy for vehicle and transit operations compared to the Project and the other alternatives. It would use the least energy for construction since it does not implement any new projects other than those that are already committed.	The energy used for vehicle and transit operations by Alternative 2 is slightly lower than the Project and other alternatives. Also, this alternative would use less construction energy than the Project alternative and Alternatives 3 and 4.	Alternative 3 consumes more energy for transit operations than the Project because of new and expanded transit lines. Construction energy consumption would also be more than the Project alternative and Alternative 2, and less than Alternative 4.	Alternative 4 consumes the greatest amount of energy of all the alternatives for operations and construction. It also includes the California High Speed Rail System, which will initially require considerable energy for construction within the state.
<b>Geology and Seismicity</b>			
The No Project alternative includes considerable seismic repair work on the Bay bridges which is embodied in all the other alternatives. Since the geologic impact is one of the environment on the Project, as opposed to the Project on the environment, the major differences will be the number of projects in the alternatives that cross faults or are constructed in areas of weak soils or intense ground shaking potential.	Alternative 2 does not construct as many improvements in areas of geologic hazard as the other alternatives and is therefore marginally better than the Project and more distinctly better than Alternatives 3 and 4. All new facilities will be designed to meet the latest earthquake standards, but this may not fully mitigate the effect of a major seismic event.	Alternative 3 includes more improvements than the Project and replaces Doyle Drive in San Francisco, which will significantly improve the ability of this facility to withstand a future earthquake. Alternative 3 also includes new ferry services, which would be beneficial for maintaining mobility if any of the Bay bridges are damaged. However, this alternative is slightly less favorable than the Project since it involves more construction.	Alternative 4 includes all the improvements in the Project alternative and Alternative 3; therefore, it represents the greatest cumulative impact of all the alternatives, notwithstanding some of the specific facility improvements which could be considered beneficial (e.g. Doyle Drive replacement and improvements to Rte. 37 in the North Bay which would be in a potential liquefaction area).

**Table 3.1-7: Transportation and Circulation Impacts - Alternative Comparison**

<i>No Project (Alternative 1)</i>	<i>System Management (Alternative 2)</i>	<i>Blueprint 1 Alternative (Alternative 3)</i>	<i>Blueprint 2 Alternative (Alternative 4)</i>
<b>Biological Resources</b>			
Adverse impacts on biological resources are a direct result of construction activities and the conversion of resource land to urban use. Because the No Project alternative does not include a number of significant transportation improvements that are part of other alternatives, it would have the least impact on biological resources of all the alternatives since it has the fewest projects and would involve less construction.	With an emphasis on the operation and maintenance of the existing transportation system, Alternative 2 has fewer new roadway widenings, and those that are widened have fewer lanes than the Project alternative. With the exception of the No Project alternative, this alternative would have the least degree of impact, at a regional level, on biological resources of all the alternatives. Also, fewer areas would be subject to secondary development that could impact biological resources.	Alternative 3 is additive to the Project alternatives and would have more highway widenings, interchange improvements and transit expansion, thus a greater potential impact on biological resources.	As with Alternative 3, the additional projects associated with this alternative are additive to the other alternatives, and therefore would result in the greatest potential impact on biological resources. As an example, this alternative includes a new Bay crossing, High Speed Rail, new interregional highways, and additional rail transit expansions.
<b>Water Resources</b>			
Generally, adverse impacts on water resources are proportional to the level of project development (short term construction activity as well as eventual amount of new covered surface), as such activities can increase total runoff and pollutant discharges to streams, rivers, estuaries, and San Francisco Bay itself. The No Project alternative has the least new construction of the alternatives and thus the least impact on water resources. In general, differences in impact on water resources between alternatives are not that extensive.	Alternative 2 would generally reduce the extent and magnitude of impacts on water resources associated with the Project alternative since the focus is on operations and maintenance of the existing transportation system. Alternative 2 improvements generally do not include construction activities in areas adjacent to San Francisco Bay and its estuaries or the crossing of streams. However, since it includes more construction than the No Project alternative, Alternative 2 would have a higher degree of impact on water resources, but less than the other build alternatives.	Alternative 3 includes transportation improvements in addition to those in the Project alternative and there would be more paved surface due to highway and transit improvements, which could result in increased runoff. Also there would be the potential for more construction near creeks and waterways. Thus it would have a somewhat greater degree of impact on Bay Area water resources than the Project and Alternative 2.	In addition to the transportation improvements in Alternative 3, Alternative 4 would add projects such as new lanes on the San Mateo and Dumbarton Bridges, a widening of Route 37 (with mitigation in the North Bay), and ferry terminal improvements near the Bay. Thus it would potentially have greatest degree of impact on water resources of all the alternatives.

**Table 3.1-7: Transportation and Circulation Impacts - Alternative Comparison**

<i>No Project (Alternative 1)</i>	<i>System Management (Alternative 2)</i>	<i>Blueprint 1 Alternative (Alternative 3)</i>	<i>Blueprint 2 Alternative (Alternative 4)</i>
<b>Visual Resources</b>			
The No Project alternative includes completion of several significant transportation facilities that were found in the 1998 EIR to have visual impacts, including new Bay, Benicia, and Carquinez bridges, the Hayward Bypass (Phase I), Rte. 4 bypass in rural eastern Contra Costa County, etc. However, as this alternative involves the construction of comparatively fewer transportation improvements that could have significant visual impacts, such as elevated highway and transit structures, new rail lines and electrification, or new facilities in currently rural areas, it would have less significant visual impacts than the Project and the other alternatives.	As the focus of Alternative 2 is on maintenance and operational improvements on the existing transportation system, this alternative would have the least significant visual impacts of all the alternatives, with the exception of the No Project alternative.	In addition to the transportation improvements in the Project alternative, Alternative 3 includes several additional projects with potentially significant visual impacts. These projects generally include highway widenings in rural areas (I-680 north of Benicia Bridge, Rte. 4 Bypass, Livermore Bypass, US 101 near the San Benito county line, etc). Overall, Alternative 3 is expected to have more significant visual impacts than Alternatives 1 and 2, but less than Alternative 4.	Alternative 4 would have the most significant visual impacts of all the alternatives as it includes more highway widening in rural areas within the region and connecting to the Central Valley, significant interchange improvements, new transit extensions in some corridors, high speed rail, additional lanes on the San Mateo and Dumbarton bridges, etc.
<b>Noise</b>			
The No Project alternative would result in significant temporary construction-related noise impacts due to the number of large committed projects. However, as this alternative includes fewer construction projects than the other alternatives, it would result in lower overall construction-related noise, and in most cases, construction-related noise impacts could be mitigated to a less-than-significant level. Also, while some of the	This alternative would, as with the Project alternative and the other alternatives, result in temporary, construction-related noise impacts. However, many of the improvements are operational or would occur in the middle of freeways, such as new HOV lanes in the median. There would be slightly more potential for construction noise than in the No Project alternative, and less potential for construction and longer term noise impacts than the Project or	Alternative 3 includes additional transportation improvements to those in the No Project and Project alternatives. This alternative, with its more extensive set of projects, could produce significant noise impacts from new or more frequent rail service, increased noise in rural areas (which may be more noticeable compared to ambient levels), and increased noise in urban areas if freeways are widened near sensitive receptors. Short term noise from construction would also	This alternative, in addition to the transportation improvements in Alternative 3, includes additional major projects that would have significant construction-related noise impacts, as well as new community noise sources. Inclusion of the new California High Speed Rail System could have construction noise impacts of considerable duration on the Peninsula, for example. Thus, Alternative 4 would result in the highest levels of transportation-

**Table 3.1-7: Transportation and Circulation Impacts - Alternative Comparison**

<i>No Project (Alternative 1)</i>	<i>System Management (Alternative 2)</i>	<i>Blueprint 1 Alternative (Alternative 3)</i>	<i>Blueprint 2 Alternative (Alternative 4)</i>
transportation improvements in the No Project alternative could have direct longer term noise impacts, each project would undergo an analysis to determine whether the impacts could be mitigated to a less-than-significant level. Thus, new construction in this and other alternatives can be the impetus for reducing noise in areas that would not have realized these benefits if new projects were not undertaken.	other alternatives.	increase relative to the Project alternative, but in most cases, construction-related noise impacts could be mitigated to a less-than-significant level. Overall, Alternative 3 would result in higher noise impacts than Alternatives 1 and 2, but less than Alternative 4.	related noise impacts of all of the alternatives.
<b>Cultural Resources</b>			
With the least amount of project development of the alternatives, the potential for ground-disturbing activities, cultural resource impacts would be lower for the No Project alternative compared to all other alternatives.	The operation and maintenance improvements associated with Alternative 2 are relatively minor with respect to ground disturbance and relate primarily to existing facilities where some ground disturbance has already occurred. However, since it includes more construction than the No Project alternative, Alternative 2 would have a higher potential for ground-disturbing impacts, but less than the other build alternatives.	Given the increase in number and types of transportation improvements in this alternative, and the potential for greater ground disturbance in previously undisturbed areas, Alternative 3 would have a greater potential for significant impacts on cultural resources than Alternatives 1 and 2, but less than Alternative 4.	Alternative 4 has the greatest potential to conduct construction in new areas that have not been disturbed in the past. Thus the potential to encounter cultural resources would be greater than for all other alternatives.
<b>Population, Housing, and Social Environment</b>			
None of the alternatives are expected to affect overall population and growth levels projected for the region. The main differences will be in terms of their potential to displace residents and disrupt communities. Since all alternatives include the	Since this alternative is operational in nature and many improvements are generally within existing transportation rights of way, it will have lower displacement/disruption impacts than the Project alternative and Alternatives 3 and 4.	Because there are a greater number of projects in Alternative 3, the potential for displacement of residences and businesses would be greater than for the Project alternatives and Alternatives 1 and 2. Projects which may have such impacts	This alternative, in addition to the improvements in Alternative 3, includes several significant improvements such as a potential new Bay crossings and their connections to facilities in the East Bay and Peninsula, additional roadway

*Part Three: Alternatives and CEQA Required Conclusions*  
*Chapter 3.1 – Alternatives to the Project*

**Table 3.1-7: Transportation and Circulation Impacts - Alternative Comparison**

<i>No Project (Alternative 1)</i>	<i>System Management (Alternative 2)</i>	<i>Blueprint 1 Alternative (Alternative 3)</i>	<i>Blueprint 2 Alternative (Alternative 4)</i>
transportation improvements in the No Project alternative and more, this alternative will have the least impact on displacement/disruption and the least adverse impacts on disadvantaged communities. It would also result in fewer short-term construction-related disruption impacts than all of the alternatives.		include freeway interchange improvements and widenings, Caltrain grade separations, a potential I-880 to I-680 cross connector in Southern Alameda County, and any other project that involves new right of way construction that would also result in potentially significant construction-related disturbances in the short term. Overall impacts would be less than Alternative 4.	widenings, new transit lines and stations, a High Speed Rail system which may require additional right of way, etc.. As such, Alternative 4 would be expected to result in the most significant potential for displacement and disruption impacts of all the alternatives.
<b>Land Use</b>			
The No Project alternative would result in the least amount of conversion of resource land to transportation uses than all the other alternatives, since it includes the least construction. Construction of new facilities, in general would not consume extensive resource land, but it is possible that the growth that may be facilitated by these improvements could.	As with the No Project alternative, Alternative 2 would result in less conversion of resource land to transportation uses than the Project alternative, again due to the operational nature and location of most improvements within existing rights of way. This alternative is unlikely to create conflicts with local land use plans. With the exception of the No Project alternative, Alternative 2 would have the least significant impact on land use.	In addition the transportation improvements in the Project alternative, Alternative 3 includes a number of highway improvements in more rural parts of the Bay Area. If these improvements are outside of the existing right of way, such widenings could convert some undetermined amount of grazing or agricultural land adjacent to the facility to transportation. This potential conversion would be greater than the Project alternative and Alternatives 1 and 2, but less than Alternative 4. Because several of the projects in Alternative 3 are not fully defined, there could be potential conflicts with local plans.	Alternative 4 includes the most extensive list of transportation improvements to the existing transportation system. Because some of these improvements are even less well defined than those in Alternative 3, there would be a greater potential for conflicts with local plans. Also, there would be potential for greater conversion of grazing and agricultural land by entirely new facilities. Also the alternative could spur the greatest amount of indirect conversion of land. For these reasons, Alternative 4 would have the greatest potential land use impacts of all the alternatives.

## ENVIRONMENTALLY SUPERIOR ALTERNATIVE

As noted, the CEQA Guidelines require each EIR to identify the environmentally superior alternative among the alternatives analyzed. If the No Project alternative is identified as the environmentally superior alternative, then the EIR must identify another of the alternatives from among the alternatives analyzed.

Table 3.1-8 compares the environmental effects of the alternatives to the Project Alternative, the proposed 2001 RTP. A qualitative and numerical rating system have been used for this assessment. It is apparent from this comparison that the No Project Alternative (Alternative 1) is environmentally superior relative to the other alternatives. However, since the No Project Alternative cannot be identified as the environmentally superior alternative, this EIR identifies the Systems Management Alternative (Alternative 2) as environmentally superior, based on the ratings below. This alternative would result in fewer adverse environmental impacts because it would have less project development activity given the focus on maintenance and more efficient operations on the existing system. This alternative would also perform comparably to the No Project Alternative in several of the impact areas. However, Alternative 2 also adopts many of the strategies discussed in the 2001 RTP that are innovative and have not yet been developed sufficiently for widespread implementation (congestion pricing on the Bay bridges, use of reversible lanes, taking existing mixed flow lanes for carpools, and larger implementation of regional express bus services). Based on these conditions and the need to develop further consensus within the transportation community, public, and legislature for these types of strategies, this alternative is not yet ready for implementation. Further work is anticipated in all of these areas which will help determine their ultimate feasibility and public acceptability.

**Table 3.1-8: Comparison of Alternatives to the 2001 RTP**

<i>Impact Area</i>	<i>No Project (Alternative 1)</i>	<i>System Management (Alternative 2)</i>	<i>Blueprint 1 Alternative (Alternative 3)</i>	<i>Blueprint 2 Alternative (Alternative 4)</i>
Transportation	4	2	2	1
Air Quality	3	3	3	3
Energy	2	3	4	5
Geology and Seismicity	2	3	4	4
Water Resources	3	3	3	4
Biological Resources	2	2	4	5
Noise	2	2	4	4
Visual Resources	1	2	4	4
Cultural Resources	2	2	4	4
Population, Housing, and Social Environment	2	2	4	4
Land Use	2	3	4	5
<i>Total</i>	<i>25</i>	<i>27</i>	<i>40</i>	<i>43</i>
<i>Average</i>	<i>2.1</i>	<i>2.3</i>	<i>3.3</i>	<i>3.6</i>

Much more favorable, 1; More favorable, 2; Comparable, 3; Less favorable, 4; Much less favorable, 5.



## **3.2 CEQA Required Conclusions**

This chapter assesses the impacts of the proposed 2001 RTP in several subject areas specifically required by CEQA, including significant irreversible, growth-inducing, and cumulative impacts. These subject areas are evaluated based on the analysis in Part Two: Settings, Impacts, and Mitigation Measures, of this EIR and is a summary reorganization of that material.

### **SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES**

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Significant irreversible environmental changes are those irretrievable commitments that consign non-renewable resources to uses that future generations will probably be unable to reverse. Typical kinds of changes associated with the transportation improvements in the 2001 RTP would include:

- Consume significant amounts of nonrenewable energy for construction and maintenance of transportation improvements.
- Increase the exposure of travelers to geologic and seismic hazards if new transportation facilities are constructed in areas subject to such hazards (although the design of new facilities would be expected to meet the latest standards for seismic safety).
- Convert some resource lands, habitat areas, and other undeveloped lands into transportation uses.
- Increase volumes of water runoff from new covered surfaces for highway and transit projects with increased demand on natural and built stormwater collection facilities.
- Visual impacts from transportation improvements, to the extent they obstruct existing views or are in sharp contrast to the existing setting, particularly in rural areas, open space areas, and on scenic highways.

### **GROWTH INDUCING IMPACTS**

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Induced growth in this program EIR refers to the potential for transportation improvements in the proposed 2001 RTP to generate population and employment growth beyond levels currently anticipated in regional and local plans. (This contrasts with the topic of induced growth in trips associated with new transportation facilities which may be short lived or non-existent depending on the facility, congestion in a corridor, and areas that the facility serves).

With respect to population growth in the Bay Area, the region will continue to grow with or without major transportation improvements, since the factors most affecting potential growth are immigration, birth rates of different segments of the population, housing availability and cost, job opportunities, climate, etc. The quality of the regional transportation system serving an area has a very limited role on overall growth compared to these factors. The availability of developable land

and water, sewer, and electrical infrastructure has a major influence on where growth can take place within a region.

All factors considered, it is unlikely that the limited transportation system expansion contemplated in the proposed 2001 RTP will be of sufficient magnitude compared to the in place transportation system to stimulate new growth beyond the 19 percent increase in population and 33 percent increase in jobs that are currently projected by the Association of Bay Area Governments (ABAG). There are three reasons for this. First, it is evident that transportation investment in general, and increased capacity in particular, currently lag behind the growth that has already occurred in the Bay Area. This situation exists because of the general constraint on transportation funding available for system capacity expansion given other priorities for maintaining and sustaining the vast existing network of freeways, local roads, and transit. Since over 80 percent of regional trips will be made by car in the year 2025, and road capacity is estimated to increase by only 2 percent, the capacity of the portion of the transportation infrastructure that has the highest use is not increasing at anywhere near the basic growth rates in population or jobs.

Second, increasing congestion may actually discourage new firms from locating in the Bay Area or cause some existing firms to consider relocation outside the Bay Area. Average delays per trip will increase from today's levels, even with the highway and transit investments contemplated in the 2001 RTP, such that it will be more difficult, rather than less difficult to move around the region in the future.

Finally, the transportation improvements in the 2001 RTP are consistent with the projected and planned growth in the Bay Area as identified by ABAG through consultation with local governments who determine the land available for new development. The 2001 RTP would not alter the amount of land identified in existing local plans that has been allocated for future development.

Some transportation improvements in the 2001 RTP could affect locally the timing and location of development for areas that depend on new access. However, this situation does not imply that such an improvement would induce additional growth beyond what is already planned. In addition, the 2001 RTP includes some transportation improvements that traverse agricultural and open space areas that are not planned for urban development and new improvements could facilitate growth if these controls are removed – the widening of U.S. 101 between Novato and Petaluma and in Southern Santa Clara County, the widening of Route 12 through Jameson Canyon in Solano and Napa Counties, the widening of Route 84 between Livermore and Sunol, and the I-680 carpool lanes at the Sunol Grade are such examples. Maintenance of existing controls would not lead to unacceptable or unanticipated growth in these corridors.

## **CUMULATIVE IMPACTS**

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Cumulative impacts result from individually minor projects with little or no significant impact that, over time, and taken together are collectively significant. In this EIR, the cumulative impact analysis considers the possible effects of all the projects in the proposed 2001 RTP together with the increase in regional travel produced by the Bay Area's increased population. These cumulative impacts could include:

- Conversion of non-urban land to transportation uses;
- Indirect contribution to the conversion of non-urban to urban land through construction of transportation facilities that support locally planned development which also converts such land to urban use;
- Greater traffic congestion as a result of insufficient transportation capacity and alternative travel options compared to projected increases in Bay Area growth and regional travel (although significantly improved over the No Project Alternative);
- Noise impacts from increases in traffic volumes on existing and new facilities which may or may not be perceptible;
- Increased energy consumption both from construction of transportation improvements and the operation and use of these highway and transit facilities;
- Displacement of some residences and businesses and a potential loss of community vitality as a result of such displacements;
- Ongoing construction disruption associated with transportation improvements around the region;
- Increased potential for human injury or loss from increased travel on facilities that may be damaged during a major earthquake;
- Changes in the visual character of the Bay Area from multiple transportation projects; possible loss of some views and vistas;
- Increased water runoff from transportation facilities which may not be collected and treated;
- Direct loss of wildlife habitats and travel paths from transportation improvements as well as indirect loss from locally planned development that is supported by these improvements; and
- Potential for accidental impact to unknown cultural resources during construction of transportation improvements.

These types of impacts are not limited to the Bay Area but are characteristic of any area that is experiencing population and employment growth.



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